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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/062,956	01/31/2002	Shing Lee	42P15256	4575

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EXAMINER
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LEE, JOHN D

ART UNIT	PAPER NUMBER
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2874

DATE MAILED: 12/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/062,956	Applicant(s) LEE ET AL.	
	Examiner John D. Lee	Art Unit 2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-7, 11-17, 21-27, 31-37, 41-47, 51-57, 61-67 and 71-77 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 11-17, 21-27, 31-37, 41-47, 51-57, 61-67 and 71-77 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

#### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other: \_\_\_\_\_

Applicant's communication filed on November 3, 2003, has been carefully studied by the Examiner. The arguments advanced therein, considered together with the amendments made to the claims, are persuasive and the rejections set forth in the previous Office action are withdrawn. The *subject matter* of all pending claims is allowable over the prior art of record. In view of a detailed scrutiny of the claims, however, numerous 35 U.S.C. § 112 claim problems have been discovered. A new rejection is accordingly set forth below. This action is **not** made final.

The following is a quotation of the second paragraph of 35 U.S.C. § 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-7, 11-17, 21-27, 31-37, 41-47, 51-57, 61-67, and 71-77 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In each of independent claims 1, 11, 21, 31, 41, 51, 61, and 71, the Markush grouping of materials for the thermo-optical material is improperly set forth using the open-ended language "*selected from the group comprising...*", thus rendering each of these claims (along with all claims depending therefrom) indefinite. A Markush grouping in a claim must always use closed-ended language (e.g. "*selected from the group consisting of...*", since the scope of the claim encompasses only one of the materials set forth in the list. Otherwise, with the use of open-ended language, the intended scope of the claim is unclear. The following indefinite language is also found. In dependent claims 42, 43, 44, and 45, the phrase "to cause single mode lasing of the

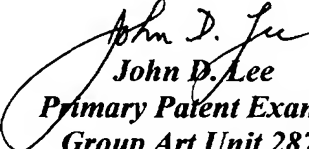
wavelength tunable laser” makes no sense and is confusing in its given context, because the wavelength tunable filter defined in independent claim 41 does not include, and makes no reference to, a laser or any lasing mechanism. The same language (“to cause single mode lasing of the wavelength tunable laser”) appears in dependent claims 52-55, 62-65, and 72-75, and is indefinite for the same reason with respect to independent claims 51, 61, and 71, respectively. Additionally, claims 56 and 57 end in a comma, indicating that the claims are incomplete as written. In claim 61, line 3, and in claim 71, line 3, there is no antecedent basis for the term “the active emission section”. It is suggested that the word “the” be replaced with “an” in this term. Finally, in line 3 of claim 71, the word “for” is misspelled.

Claims 1-7, 11-17, 21-27, 31-37, 41-47, 51-57, 61-67, and 71-77 would be allowable if rewritten or amended to overcome the 35 U.S.C. § 112, second paragraph, rejection above. Further search by the undersigned Examiner has uncovered no additional relevant prior art.

Applicant's arguments with respect to claims 1-7, 11-17, 21-27, 31-37, 41-47, 51-57, 61-67, and 71-77 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning the merits of this communication should be directed to Examiner John D. Lee at telephone number (703) 308-4886. The Examiner's normal work schedule is Tuesday through Friday, 6:30 AM to 5:00 PM. Any inquiry of a

general or clerical nature (i.e. a request for a missing form or paper, etc.) should be directed to the Technology Center 2800 receptionist at telephone number (703) 308-0956, to the technical support staff supervisor (Team 2) at telephone number (703) 308-3072, or to the Technology Center 2800 Customer Service Office at telephone number (703) 306-3329.

  
**John D. Lee**  
**Primary Patent Examiner**  
**Group Art Unit 2874**